



BioMap and Living Waters

Guiding Land Conservation for Biodiversity in Massachusetts

Core Habitats of Becket

This report and associated map provide information about important sites for biodiversity conservation in your area.

This information is intended for conservation planning, and is not intended for use in state regulations.

Produced by:
Natural Heritage & Endangered Species Program
Massachusetts Division of Fisheries and Wildlife
Executive Office of Environmental Affairs
Commonwealth of Massachusetts

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* Depending on the location of Core Habitats, your city or town may not have all of these sections.

Spring Salamander
(*Gyrinophilus porphyriticus*)
Species of Special Concern



Funding for this project was made available by the Executive Office of Environmental Affairs, contributions to the Natural Heritage & Endangered Species Fund, and through the State Wildlife Grants Program of the US Fish & Wildlife Service.



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Introduction

In this report, the Natural Heritage & Endangered Species Program provides you with site-specific biodiversity information for your area. Protecting our biodiversity today will help ensure the full variety of species and natural communities that comprise our native flora and fauna will persist for generations to come.

The information in this report is the result of two statewide biodiversity conservation planning projects, **BioMap** and **Living Waters**. The goal of the BioMap project, completed in 2001, was to identify and delineate the most important areas for the long-term viability of terrestrial, wetland, and estuarine elements of biodiversity in Massachusetts. The goal of the Living Waters project, completed in 2003, was to identify and delineate the rivers, streams, lakes, and ponds that are important for freshwater biodiversity in the Commonwealth. These two conservation plans are based on documented observations of rare species, natural communities, and exemplary habitats.

What is a Core Habitat?

Both BioMap and Living Waters delineate **Core Habitats** that identify the most critical sites for biodiversity conservation across the state. Core Habitats represent habitat for the state's most viable rare plant and animal populations and include exemplary natural communities and aquatic habitats. Core Habitats represent a wide diversity of rare species and natural communities (see Table 1), and these areas are also thought to contain virtually all of the other described species in Massachusetts. Statewide, BioMap Core Habitats encompass 1,380,000 acres of uplands and wetlands, and Living Waters identifies 429 Core Habitats in rivers, streams, lakes, and ponds.



Core Habitats and Land Conservation

One of the most effective ways to protect biodiversity for future generations is to protect Core Habitats from adverse human impacts through land conservation. For Living Waters Core Habitats, protection efforts should focus on the **riparian areas**, the areas of land adjacent to water bodies. A naturally vegetated buffer that extends 330 feet (100 meters) from the water's edge helps to maintain cooler water temperature and to maintain the nutrients, energy, and natural flow of water needed by freshwater species.

In Support of Core Habitats

To further ensure the protection of Core Habitats and Massachusetts' biodiversity in the long-term, the BioMap and Living Waters projects identify two additional areas that help support Core Habitats.

In BioMap, areas shown as **Supporting Natural Landscape** provide buffers around the Core Habitats, connectivity between Core Habitats, sufficient space for ecosystems to function, and contiguous undeveloped habitat for common species. Supporting Natural Landscape was



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generated using a Geographic Information Systems (GIS) model, and its exact boundaries are less important than the general areas that it identifies. Supporting Natural Landscape represents potential land protection priorities once Core Habitat protection has been addressed.

In Living Waters, *Critical Supporting Watersheds* highlight the immediate portion of the watershed that sustains, or possibly degrades, each freshwater Core Habitat. These areas were also identified using a GIS model. Critical Supporting Watersheds represent developed and undeveloped lands, and can be quite large. Critical Supporting Watersheds can be helpful in land-use planning, and while they are not shown on these maps, they can be viewed in the Living Waters report or downloaded from www.mass.gov/mgis.

Understanding Core Habitat Species, Community, and Habitat Lists

What's in the List?

Included in this report is a list of the species, natural communities, and/or aquatic habitats for each Core Habitat in your city or town. The lists are organized by Core Habitat number.

For the larger Core Habitats that span more than one town, the species and community lists refer to the entire Core Habitat, not just the portion that falls within your city or town. For a list of all the state-listed rare species within your city or town's boundary, whether or not they are in Core Habitat, please see the town rare species lists available at www.nhesp.org.

The list of species and communities within a Core Habitat contains only the species and

Table 1. The number of rare species and types of natural communities explicitly included in the BioMap and Living Waters conservation plans, relative to the total number of native species statewide.

| BioMap | | |
|-----------------------------|--|-----------------------------|
| Biodiversity Group | Species and Verified Natural Community Types | |
| | Included in BioMap | Total Statewide |
| Vascular Plants | 246 | 1,538 |
| Birds | 21 | 221 breeding species |
| Reptiles | 11 | 25 |
| Amphibians | 6 | 21 |
| Mammals | 4 | 85 |
| Moths and Butterflies | 52 | An estimated 2,500 to 3,000 |
| Damselflies and Dragonflies | 25 | An estimated 165 |
| Beetles | 10 | An estimated 2,500 to 4,000 |
| Natural Communities | 92 | > 105 community types |
| Living Waters | | |
| Biodiversity Group | Species | |
| | Included in Living Waters | Total Statewide |
| Aquatic Vascular Plants | 23 | 114 |
| Fishes | 11 | 57 |
| Mussels | 7 | 12 |
| Aquatic Invertebrates | 23 | An estimated > 2500 |

natural communities that were explicitly included in a given BioMap or Living Waters Core Habitat. Other rare species or examples of other natural communities may fall within the Core Habitat, but for various reasons are not included in the list. For instance, there are a few rare species that are omitted from the list or summary because of their particular sensitivity to the threat of collection. Likewise, the content of many very small Core Habitats are not described in this report or list, often because they contain a single location of a rare plant



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species. Some Core Habitats were created for suites of common species, such as forest birds, which are particularly threatened by habitat fragmentation. In these cases, the individual common species are not listed.

What does 'Status' mean?

The Division of Fisheries and Wildlife determines a status category for each rare species listed under the Massachusetts Endangered Species Act, M.G.L. c.131A, and its implementing regulations, 321 CMR 10.00. Rare species are categorized as Endangered, Threatened, or of Special Concern according to the following:

- **Endangered** species are in danger of extinction throughout all or a significant portion of their range or are in danger of extirpation from Massachusetts.
- **Threatened** species are likely to become Endangered in Massachusetts in the foreseeable future throughout all or a significant portion of their range.
- **Special Concern** species have suffered a decline that could threaten the species if allowed to continue unchecked or occur in such small numbers or with such restricted distribution or specialized habitat requirements that they could easily become Threatened in Massachusetts.

In addition, the Natural Heritage & Endangered Species Program maintains an unofficial **watch list** of plants that are tracked due to potential conservation interest or concern, but are not regulated under the Massachusetts Endangered Species Act or other laws or regulations. Likewise, described natural communities are not regulated any laws or regulations, but they can help to identify ecologically important areas that are worthy of protection. The status of natural

Legal Protection of Biodiversity

BioMap and Living Waters present a powerful vision of what Massachusetts would look like with full protection of the land that supports most of our biodiversity. To create this vision, some populations of state-listed rare species were deemed more likely to survive over the long-term than others.

Regardless of their potential viability, all sites of state-listed species have full legal protection under the Massachusetts Endangered Species Act (M.G.L. c.131A) and its implementing regulations (321 CMR 10.00). Habitat of state-listed wildlife is also protected under the Wetlands Protection Act Regulations (310 CMR 10.37 and 10.59). The **Massachusetts Natural Heritage Atlas** shows **Priority Habitats**, which are used for regulation under the Massachusetts Endangered Species Act and Massachusetts Environmental Policy Act (M.G.L. c.30) and **Estimated Habitats**, which are used for regulation of rare wildlife habitat under the Wetlands Protection Act. For more information on rare species regulations, see the *Massachusetts Natural Heritage Atlas*, available from the Natural Heritage & Endangered Species Program in book and CD formats.

BioMap and Living Waters are conservation planning tools and do not, in any way, supplant the Estimated and Priority Habitat Maps which have regulatory significance. Unless and until the combined BioMap and Living Waters vision is fully realized, we must continue to protect all populations of our state-listed species and their habitats through environmental regulation.

communities reflects the documented number and acreages of each community type in the state:

- **Critically Imperiled** communities typically have 5 or fewer documented sites or have very few remaining acres in the state.
- **Imperiled** communities typically have 6-20 sites or few remaining acres in the state.
- **Vulnerable** communities typically have 21-100 sites or limited acreage across the state.
- **Secure** communities typically have over 100 sites or abundant acreage across the state; however excellent examples are identified as Core Habitat to ensure continued protection.



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Understanding Core Habitat Summaries

Following the BioMap and Living Waters Core Habitat species and community lists, there is a descriptive summary of each Core Habitat that occurs in your city or town. This summary highlights some of the outstanding characteristics of each Core Habitat, and will help you learn more about your city or town's biodiversity. You can find out more information about many of these species and natural communities by looking at specific *fact sheets* at www.nhesp.org.

Next Steps

BioMap and Living Waters were created in part to help cities and towns prioritize their land protection efforts. While there are many reasons to conserve land – drinking water protection, recreation, agriculture, aesthetics, and others – BioMap and Living Waters Core Habitats are especially helpful to municipalities seeking to protect the rare species, natural communities, and overall biodiversity within their boundaries. Please use this report and map along with the rare species and community fact sheets to appreciate and understand the biological treasures in your city or town.

Protecting Larger Core Habitats

Core Habitats vary considerably in size. For example, the average BioMap Core Habitat is 800 acres, but Core Habitats can range from less than 10 acres to greater than 100,000 acres. These larger areas reflect the amount of land needed by some animal species for breeding, feeding, nesting, overwintering, and long-term survival. Protecting areas of this size can be

very challenging, and requires developing partnerships with neighboring towns.

Prioritizing the protection of certain areas within larger Core Habitats can be accomplished through further consultation with Natural Heritage Program biologists, and through additional field research to identify the most important areas of the Core Habitat.

Additional Information

If you have any questions about this report, or if you need help protecting land for biodiversity in your community, the Natural Heritage & Endangered Species Program staff looks forward to working with you.

Contact the Natural Heritage & Endangered Species Program:

by Phone 508-792-7270, Ext. 200

by Fax: 508-792-7821

by Email: natural.heritage@state.ma.us.

by Mail: North Drive
Westborough, MA 01581

The GIS datalayers of BioMap and Living Waters Core Habitats are available for download from MassGIS: www.mass.gov/mgis

Check out www.nhesp.org for information on:

- Rare species in your town
- Rare species fact sheets
- BioMap and Living Waters projects
- Natural Heritage publications, including:
 - * Field guides
 - * Natural Heritage Atlas, and more!



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BioMap: Species and Natural Communities

Becket

Core Habitat BM724

Natural Communities

| <u>Common Name</u> | <u>Scientific Name</u> | <u>Status</u> |
|--------------------|------------------------|---------------|
| Level Bog | | Vulnerable |

Invertebrates

| <u>Common Name</u> | <u>Scientific Name</u> | <u>Status</u> |
|----------------------|-------------------------|-----------------|
| Beaver Pond Clubtail | <i>Gomphus borealis</i> | Special Concern |
| Eastern Veined White | <i>Pieris oleracea</i> | Threatened |

Core Habitat BM779

Plants

| <u>Common Name</u> | <u>Scientific Name</u> | <u>Status</u> |
|-----------------------|-------------------------------|---------------|
| Large-Leaved Sandwort | <i>Moehringia macrophylla</i> | Endangered |

Invertebrates

| <u>Common Name</u> | <u>Scientific Name</u> | <u>Status</u> |
|--------------------|-------------------------|-----------------|
| Ocellated Darner | <i>Boyeria grafiana</i> | Special Concern |

Core Habitat BM839

Vertebrates

| <u>Common Name</u> | <u>Scientific Name</u> | <u>Status</u> |
|--------------------|------------------------------|---------------|
| American Bittern | <i>Botaurus lentiginosus</i> | Endangered |

Core Habitat BM858

Plants

| <u>Common Name</u> | <u>Scientific Name</u> | <u>Status</u> |
|---------------------------|------------------------|---------------|
| Small Site for Rare Plant | | |



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BioMap: Species and Natural Communities

Becket

Core Habitat BM868

Natural Communities

Common Name

Scientific Name

Status

Level Bog

Vulnerable

Plants

Common Name

Scientific Name

Status

Thread Rush

Juncus filiformis

Endangered



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BioMap: Core Habitat Summaries

Becket

Core Habitat BM724

This Core Habitat contains a mix of high-quality forest and wetland habitats that support rare invertebrate species, such as the Eastern Veined White butterfly. It also encompasses a small but well-buffered Level Bog community. Most of this Core Habitat is either within the October Mountain State Forest or on protected municipal watershed land; nevertheless, conservation of remaining unprotected areas within this Core Habitat (especially in its southeastern corner) is important to help ensure the long-term viability of rare species inhabiting the area.

Natural Communities

This Core Habitat contains a small Level Bog that is well-buffered by extensive natural vegetation. Level Bogs are dwarf shrub peatlands, generally with pronounced hummock and hollow formations. These wetland peatlands are our most acidic and nutrient-poor, because they receive little overland water input, and are not connected to the water table.

Invertebrates

This large Core Habitat consists of undeveloped and unfragmented mixed Northern Hardwoods forest with sunny openings that are inhabited by the rare Eastern Veined White butterfly. This Core Habitat is located less than 5 km from Core Habitat in southeastern Pittsfield, which probably allows for dispersal of Eastern Veined Whites between these two habitat areas. This Core Habitat also includes various wetlands, including Mud Pond, Clapp Pond, Sandwash Reservoir, and wetlands to the southeast of the reservoir, all of which provide habitat for the Beaver Pond Clubtail dragonfly.

Core Habitat BM779

This Core Habitat encompasses a section of the West Branch of the Westfield River and its surrounding uplands. Habitats here support rare insects, such as the Ocellated Darner dragonfly, and rare plants, including the Endangered Large-Leaved Sandwort.

Plants

One of only three known populations of the Endangered Large-Leaved Sandwort in Massachusetts grows within this Core Habitat.

Invertebrates

This Core Habitat includes a 6.5-km stretch of the West Branch of the Westfield River, its tributaries, and surrounding forested, unfragmented uplands that are habitat for the rare Ocellated Darner dragonfly. This Core Habitat is within dispersal distance of another Core Habitat for this species in Chester, which allows for movement of Ocellated Darners between these two areas. While some of this Core Habitat is within the Walnut Hill Wildlife Management Area, conservation of remaining areas of unprotected land within this Core Habitat is desirable to increase the amount of contiguous protected habitat and to help ensure the long-term viability of the Ocellated Darner and other rare species inhabiting the area.



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BioMap: Core Habitat Summaries

Becket

Core Habitat BM839

Vertebrates

This Core Habitat encompasses freshwater marsh and shrub swamp habitats along the north side of Shaw Pond in Becket that provide habitat for American Bitterns and other wetland birds, including Green Herons. This site is not currently protected as conservation land.

Core Habitat BM868

Natural Communities

This Core Habitat contains the best currently known Level Bog in Berkshire County and is one of the top three Level Bogs on the BioMap. Level Bogs are dwarf shrub peatlands, generally with pronounced hummock and hollow formations. These wetland peatlands are our most acidic and nutrient-poor, because they receive little overland water input, and are not connected to the water table. Here the bog's 23 acres are well-buffered by natural vegetation.



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Living Waters: Species and Habitats

Becket

Core Habitat LW096

Fishes

Common Name

Bridle Shiner

Scientific Name

Notropis bifrenatus

Status

Special Concern

Core Habitat LW113

Fishes

Common Name

Lake Chub

Scientific Name

Couesius plumbeus

Status

Endangered



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Living Waters: Core Habitat Summaries

Becket

Core Habitat LW096

This Core Habitat supports one of six known populations of Bridle Shiner in the Farmington Watershed. This fish Species of Special Concern has a small range from southern New England to South Carolina, and has been declining or extirpated in much of the region. The Bridle Shiner is typically found in well-vegetated, quiet waters. It feeds on small aquatic insects and other invertebrates, and is an important part of the freshwater ecosystem as prey for larger fishes. This population of Bridle Shiner in Shaw Pond has persisted since at least 1947.

Core Habitat LW113

This Core Habitat contains habitat for the state-Endangered Lake Chub. This fish requires moderate- to fast-flowing, clear, cold streams with gravel and rubble substrates. In spring, this species may move large distances to spawn (breed). Excess sediments can degrade the clean gravel needed for spawning and proper egg development. Increases in sediments cloud the water and impair this species' visual feeding. Sections of this Core Habitat are already protected, but further land protection along the riparian areas will help maintain the excellent quality of this habitat.



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